

YASTREBOV, S.M.

Remodeled steam-heated deep-fat fryer. Kons. 1 ov. prom. 14
no.8:7-9 Ag '59. (MIRA 12:9)

1. Dagestanskiy nauchno-issledovatel'skiy institut sel'skogo
khozyaystva.
(Canning industry--Equipment and supplies)

YASTREBOV, S.M.; MASSOVER, A.M.; LEMARIN'YE, K.P., kand. tekhn. nauk, red.;
BELIKOVA, L.S., red.; KISINA, Ye.I., tekhn. red.

[Sterilization of canned food] Sterilizatsiia konservov. Pod red.
K.P.Lemarin'e. Moskva, Pishchepromizdat, 1961. 67 p.
(MIRA 14:9)

(Food, Canned—Sterilization)

BOGDANOVA, L.S.; YASTREBOV, S.M.

Experience of Daghestan canning and preserving enterprises
in the mechanization and automation of production. Kons. i
ov. prom. 16 no.6:37-38 Je '61. (MIRA 14:8)
(Daghestan--Canning industry--Equipment and supplies)
(Automation)

TKACHEV, R.Ya.; NAMESTNIKOV, A.F., kand. tekhn. nauk, retsenzent;
YASTREBOV, S.M., inzh., retsenzent; KOVALEVSKAYA, A.I.,
red.; SATAROVA, A.M., tekhn. red.

[Deep-frying of vegetables and fish in canning] Obzharka ovo-
shchei i ryby pri proizvodstve konservov. Moskva, Pishche-
promizdat, 1961. 89 p. (MIRA 15:11)
(Canning and preserving)

SOV/120-58-5-19/32

AUTHOR: Yastrebov, S. S.

TITLE: Automatic Magnetic-Field Scan for Mass Spectrometer MS-2M
(Avtomaticheskaya razvertka po magnitnomu polyu dlya mass-spektrometra MS-2M)

PERIODICAL: Pribory i tekhnika eksperimenta, 1958, Nr 5, pp 76-78
(USSR)

ABSTRACT: In mass-spectrometric analyses it is frequently desirable to obtain two or more recordings, slightly displaced from each other, of the response corresponding to a particular isotope. This would be useful, for example, for standardization purposes when analyzing for the concentration of a rare isotope: the response of the abundant isotope or isotopes repeated at intervals serves as a yardstick; alternatively it may be desired simply to broaden, by repetition, all the mass spectra. Displacement of the mass spectrum is normally achieved by varying the magnetic dispersing field. Where an occasional standardization check is required it is quite possible and convenient to do this manually, but in a production process this may not be feasible and automation is required. An example of such a production process is the enrichment of uranium where it is necessary to

Card 1/3 check samples at intervals for the concentration of U^{235} ,

SOV/120-58-5-13/32

Automatic Magnetic-Field Scan for Mass Spectrometer MS-2M

compared with U^{238} . One way of doing this would be to 'programme' the magnetic field for regular periodic variations. This would not, however, be an economic method for a process in which the concentration does not build up linearly with time: what is required is a 'sensing' mechanism which makes a restandardization when the concentration has changed by an amount exceeding a certain, pre-determined, quantity. The device described achieves this sensing by feeding the responses from the mass spectra through an arrangement of relays to a differential mechanism which discriminates between the feed-back response and the standard. When the difference exceeds the predetermined value a moving contact automatically moves over a rheostat and

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Automatic Magnetic-Field Scan for Mass Spectrometer MS-2M

varies the magnetic field. The text contains 3 figures, of which 2 give the mechanical and electrical schematics, and the 3rd some typical mass spectra. Acknowledgements are made to G. M. Kukavadze for his interest and assistance. There is 1 Soviet reference.

SUBMITTED: October 21, 1957.

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ACCESSION NR: AP4012266

S/0089/64/016/001/0056/0058

AUTHORS: Danelyan, L. S.; Adamchuk, Yu. V.; Moskalev, S. S.; Pevzner, M. I.; Yastrebov, S. S.

TITLE: The radiative-capture cross-section of dysprosium isotopes in an energy range of 0.023-1 electron volts.

SOURCE: Atomnaya energiya, v. 16, no. 1, 1964, 56-58

TOPIC TAGS: absorber, burnable absorber, isotope mixture, natural mixture, capture cross-section, radiative capture, amplitude analyzer, dysprosium, thermal neutrons, neutron spectrum, reactor oscillator

ABSTRACT: The capture cross-sections of dysprosium isotopes have been measured by the flight-time method. A pulsating linear electron accelerator was used as a neutron source. A single-channel amplitude analyzer transmitting gamma-ray pulses with an energy of 1.6-5 Mev was added to the background to improve the effect. The total cross-section was measured by the neutron transmission in the 0.02-0.07 ev range with a view to determining the absolute cross section. But the lack of adequate quantities of separated isotopes

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ACCESSION NR: AP4012266

complicated the determination of the total cross sections in the entire energy range. The transmission of the dysprosium samples located midway between the accelerator target and the detector was recorded by a Gd^{155} sample placed in the detector. A mass-spectrometric analysis of Dy^{162} and Dy^{163} samples, designed to determine their content of Dy^{164} , Gd^{155} and Gd^{157} , was made with an Mc-2M mass-spectrometer. It was found that the Gd^{155} and Gd^{157} isotopes accounted for less than 0.01% which can produce a 10% error in defining the absolute values on the basis of the total cross sections.

"We are deeply grateful to V. S. Zolotarev and his associates for producing separated dysprosium isotopes; to G. M. Kukavadze for his useful advice, and to A. S. Alpeyev, A. Ya. Lunin, S. M. Strel'nikov and M. V. Safronova for their participation in the measuring and data processing."

Orig. art. has: 1 Figure, 1 Formula and 1 Table.

ASSOCIATION: None

SUBMITTED: 24Jun63

DATE ACQ: 14Feb64

ENCL: 00

SUB CODE: PH

NR REF SOV: 002

OTHER: 003

Card 2/2

YASTREBOV, T.

Thirty-four groups for inspection assistance with one thousand stations. Obshchestv. pit. no.6:26-27 Je '63. (MIRA 16:12)

1. Nachal'nik Upravleniya obshchestvennogo pitaniya Ispolnitel'nogo komiteta Moskovskogo oblastnogo (promyshlennogo) Soveta deputatov trudyashchikhaya.

ALFEROV, B.A.; PURTOVA, S.I.; SEREBRYAKOVA, Z.D.; YASTREBOVA, T.A.;
DROBYSHEV, D.V., prof., red.; SVERCHKOV, G.P., nauchnyy red.;
NEVEL'SHTEYN, V.I., vedushchiy red.; MITROPANOVA, G.M., tekhn.red.

[Key wells of the U.S.S.R.; Uvat key well (Tyumen' Province)]
Opronnye skvazhiny SSSR; Uvatskaya opornaya skvazhina
(Tiumenskaya oblast'). Leningrad, Gos.nauchno-tekhn.izd-vo
neft.i gorno-toplivnoi lit-ry Leningr.otd-nie, 1961. 90 p.
(Leningrad. Vsesoiuznyi neftianoi nauchno-issledovatel'skii
geologorazvedochnyi institut. Trudy, no.178). (MIRA 15:4)
(Uvat region--Petroleum geology)
(Uvat region--Gas, Natural--Geology)

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001962230007-1

17 956

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001962230007-1"

IAZOVSKIY, V.V.; YASTREBOVA, T.K.

Possibility of using the Kh-16 electrolytic integrator in
actinometry. Trudy GGO no.174:114-123 '65.

(MIRA 19:1)

C A

3

Influence of the temperature upon radiation distribution and decay of Ca3-D1 phosphor. V. A. Yastreblov, *Compt. rend. acad. sci. U. S. S. R.*, 28, 207-208 (1948) (in English).—The total light intensity emitted in the α bands of the Ca3-D1 phosphor during a period of 100 μ sec. after excitation ceased was detd. indirectly over the temp. interval 90° to 673°K. This distribution curve has a pronounced maximum at about 330°K. R. G. T.

AS 455.5 METALLURGICAL LITERATURE CLASSIFICATION

Temperature stability of luminescence bands
Yastrebov, Trudy Fiz. inst. Akad. Nauk SSSR, 1960, No. 1, p. 100-101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

J. Rovtar Lench

YASTREBOV, V. A.

PA 21T108

USSR/Physics
Luminescent Materials
Phosphors

Sep 1946

"Certain Peculiarities in the Luminescence of the Zinc-Cadmium Phosphors," V. A. Yastrebov, 2 pp

"Comptes Rendus (Doklady)" Vol LIII, No 7

Four figures are given showing the dependence of brightness upon temperature, for increasing heating and decreasing cooling. It has been concluded that brightness-temperature curves are meaningless, with a statement of how temperature was reached.

21T108

Temperature-stability of luminescence bands. V. A. Yastrebov. *Zhur. Ekspit. Teor. Fiz.* (J. Reptl. Theoret. Phys.) 17, 140-84(1947); *J. Phys.* (U.S.S.R.) 11, No. 3 (1947); cf. C.A. 41, 2043i. (1) The decay of the phosphorescence of CaS.Bi and ZnS.Cu (10^{-9}), after identical excitation (11g lamp 3.5 amp., 400 w., 1 min., $\lambda = 390$ m μ), 334 and 313 m μ follows Levshin's rate law $I = I_0 e^{-\alpha t}$ (except, of course, at the initial stage). For CaS.Bi , α is const. = 1.11 (expressed in sec.) in the temp. range 305-673°K., in which the total emission L decreases with increasing temp.; between 280 and 90°K., where L increases with the temp., α decreases with falling temp., down to 0.84 at 90°K. That above the temp. range of const. α the rate of decay decreases progressively with further rising temp. is demonstrated by the phosphorescence of ZnS.Cu . As a rule, there are 3 distinct temp. ranges, a 1st range of slow increase of α with the temp., followed by a range of const. α , followed by a 3rd range of rapid increase of α . (2) In the temp. range of const. α with the variation of L (total light emitted up to 100 sec.) with the law $L = L_0 e^{-\alpha t}$, with $\delta = 0.2$ the temp. T follows the law $L = L_0 e^{-\alpha t}$. This law and 0.15 e.v., for CdS.Bi and ZnS.Cu , resp. dependence of the probability of recombination of an electron and an ion, $P = P_0 e^{-E/kT}$, where E = energy of activation for the recombination; hence, for CdS.Bi and ZnS.Cu , $E = 0.4$

and 0.3 e.v., resp. At temps. below the const. α range, the probability of recombination diminishes, and localization levels become rapidly filled on excitation. Consequently, L decreases with falling temp., and the $L(t)$ curve has a sharp max. (3) At const. temp., and variable intensity of excitation, decay in the initial stage is the slower, the lower the initial concn. of electrons; at later stages the rates of decay become very nearly equal. (4) If the same excitation is applied at room temp., and phosphorescence measured at a higher temp. (348, 408°K.) or if the phosphor is excited at 329°K. and its phosphorescence is measured at a lower temp. (280°K.), the linear relation between $\log I$ and $\log t$ is preserved but the value of α is changed; thus, on cooling from 329 to 280°K., $\alpha = 2.5$, and on heating from 280 to 408°K., $\alpha = 2.8$. (5) Replacement of part of the ZnS in ZnS.Cu by CdS results in a lowering of the upper temp. limit, and in a narrow-

Phys. Inst. in Leningrad.

ing of the range of constancy of α . Increasing CdS content results in progressive lowering of the temp. at which long phosphorescence is still observable; thus, with 20 and 30% CdS, prolonged emission is observed only up to 154 and 161°C., resp., whereas with 40% CdS no such emission is observed even at 20°C. (6) The decrease of the temp. of beginning rapid growth of α , as a function of increasing CdS content in ZnS-CdS, follows the same curve as the displacement of the long-wave edge of the absorption band of these phosphors. Analysis of data on groups of phosphors CaS:Bi , SrS:Bi , BaS:Bi ; CaO:Bi , CaS:Bi , CaSe:Bi ; $\text{SiO}_2\text{:Mn}$, SrS:Mn , SrSe:Mn ; and CaS:Cu , SrS:Cu , BaS:Cu , leads to the conclusion that, whenever the same activator is introduced into different main compds., the long phosphorescence due to that activator will disappear at a temp. the lower, the longer the wavelength of the long-wave edge of the fundamental absorption band of the main compd. The factor underlying this parallelism is the polarizability P of the ions; the higher P , the lower the activation energy necessary to free the trapped electron into the cond. zone, and, consequently, the lower the temp. at which phosphorescence disappears. (6) From a comparison of ZnS:Zn, ZnS:Cu, ZnS:Ag, and ZnS:Mn phosphors prep'd. and excited under identical conditions, the decrease of the intensity of initial luminescence (at excitation) at a higher temp. T , can be represented very accurately by $I_{\text{em}} = I_{\text{em},0}/(1 + C e^{-w/RT})$, where the quenching energy w depends on the nature of the activator; thus, for ZnS:Zn, $w = 0.4 \text{ e.v.}$, $C = 10^4$, for ZnS:Cu, $w = 1 \text{ e.v.}$, $C = 10^6$. The total light emitted at the temp. T is $L = L_0 e^{-w/RT}/(1 + C e^{-w/RT})$. The meaning of the const. C follows from the scheme of Mott (*Proc. Roy. Soc. (London)* 167, 384(1938)), the probability γ that an excited activator electron will give up its energy in the form of heat being $\gamma = \gamma_0 e^{-w/RT}$, where γ_0 is close to the lattice vibration energy, and the probability A of return to the ground state with emission being independent of the temp. This gives, for the fraction of electrons returning to the ground state with emission, $A/(A + \gamma) = 1/(1 + (\gamma_0/A) e^{-w/RT})$, hence $C = \gamma_0/A$.

N. Tboa

180T99

USSR/Physics - Luminescence

Feb 51

"Non-Exponential Extinguishment of Luminescence
of Solid Aromatic Hydrocarbons," V. A. Yastrebov,
Phys Inst imeni Lebedev, Acad Sci USSR

"Zhur Eksper i Teoret Fiz" Vol XXI, No 2, pp 164-
171

Examd subject luminescence at various temp and
intensities of excitement. Detd extinguishment
follows law, approximating exponential behavior
only on small sec of corr curve.

LC

180T99

YASTREBOV, V. A.

USSR/Physics - Luminescence Extinction 21 Jun 53

"Extinction Law of Luminescence of Solid Organic Substances," V. A. Yastrebov, Physics Inst im Lebedev, Acad Sci USSR

DAN SSSR, Vol 90, No 6, pp 1015-1018

Investigates possibility of obtaining recombination glow of organic molecules. Tests were made on cement-phosphors activated by carbazole and other phosphors. Results, plotted on curves, prove that extinction does not follow exponential law. Presented by Acad A. A. Lebedev 22 Apr 53.

269T101

VASTREBOV, V.D.

PHASE I BOOK EXPLOITATION

SOV/4281

Akademiya nauk SSSR

Izusstvennyye sputniki zemli, vyp. 4 (Artificial Earth Satellites, No. 4)
Moscow, 1960. 205 p. Errata slip inserted. 6,500 copies printed.

Resp. Ed.: L.V. Kurnosova; Ed. of Publishing House: M.I. Pradkin; Tech. Ed.:
T.P. Polenova.

PURPOSE: This collection of articles is intended to disseminate data collected
in investigations performed by means of artificial earth satellites.

COVERAGE: The collection consists of 15 articles dealing with scientific data on
Soviet artificial earth satellites (AES) and cosmic rockets. The topics dis-
cussed include measurements of the density of the upper atmosphere, motion of
AES, measurements of micrometeorites and meteoric matter, magnetometric measure-
ments of cosmic rays, electrical potential, and spectrum of positive ions. The
collection is part of a series published regularly. References follow each
article.

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Artificial Earth Satellites, No. 4

SOV/4281

TABLE OF CONTENTS:

Kislík, M.D. Motion of an Artificial Satellite in the Normal Gravitational Field of the Earth

The study of the motion of the AES is made without taking the resistance of air into account. The results obtained can be used for the calculation of orbits of high flying satellites and also for the qualitative analysis of the influence of the contraction of the earth on the motion of satellites.

El'yasberg, P.Ye., and V.D. Yastrebov. Determination of the Density of the Upper Atmosphere According to the Results of Flight Observations of the Third Soviet AES

18

Kolegov, G.A. Variations of the Upper Atmosphere Density According to Data of the Changing Period of Revolutions of AES

Results of the processing of experimental data obtained by the observations of the Soviet AES and some interpretations of these results are given.

31

Yatsunskiy, I.M. Determination of the Conditions of Illumination and the Time Intervals in Which the Satellite Remains in Sunlight and in Shadow

35

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ACC NR: AF5033401

SOURCE CODE: UR/0293/66/004/005/0781/0783

AUTHOR: Mar'yamov, A. G.; Yastrebov, V. D.

ORG: nono

TITLE: System of cylindric coordinates for the description of motion of artificial satellites

SOURCE: Kosmicheskiye issledovaniya, v. 4, no. 5, 1966, 781-783

TOPIC TAGS: artificial satellite orbit, satellite motion, earth satellite orbit, coordinate system, numeric integration, computer calculation

ABSTRACT: Determination of orbits of artificial satellites by using electronic computers is based on numerical integration of systems of differential equations, and the speed of calculation depends mainly on the size of the step of the numerical integration and the form of the right side of the differential equations. Usually, a system of rectangular coordinates is applied, which requires relatively small integration steps for obtaining the desired accuracy, and this reduces the speed of calculation. The author describes a calculation method based on the use of cylindric coordinates. By using the Lagrange equations of the second kind and by taking into account perturbations due to the second harmonic of the earth's gravitational potential, and the atmospheric resistance, the author derives the differential

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UDC: 629.199

ACC NR: AP6033401

equations of the satellite in cylindric coordinates. For orbits of small eccentricities, this method gives an accuracy which is by several orders of magnitude higher than that obtained in rectangular coordinates. Orig. art. has: 1 figure, 2 tables and 3 equations.

SUB CODE: 22/ SUBM DATE: 05Apr65/ ORIG REF: 002

Card 2/2

YASTREBOV, V. M.

"Theoretical and Experimental Investigation of a Planetary Reducer With
a Parasite Statellite Gear." Cand Tech Sci, Leningrad Polytechnic Inst izeni
M. I. Kalinin, Min Higher Education USSR, Leningrad, 1954. (KL, No. 1, Jan 55)

Survey of Scientific and Technical Dissertations Defended at USSR Higher
Educational Institutions (12)
SO: Sum. No. 556, 24 Jun 55

YASTREBOV, V.M., kand. tekhn. nauk

Generating teeth of noncircular multiple gear wheels (snails).
Izv. vys. ucheb. zav.; mashinostr. no. 2: 124-128 '58.

(MIRA 11:12)

1. Izhevskiy mekhanicheskii institut.
(Gear cutting)

S/122/60/000/003/003/015
A161/A13C

AUTHOR: Yastrebov, V.M., Candidate of Technical Sciences, Docent

TITLE: Planetary 3K transmissions with common satellite

PERIODICAL: Vestnik mashinostroyeniya, no. 3, 1960, 17 - 20

TEXT: One of "3K" planetary gear transmission modification is discussed (Fig. 1), having one satellite (2) in mesh with both the mobile (4) and immobile (3) gears at the same time. The "3K" type had been described by V.N. Kudryavtsev (Ref. 1: Planetarnye peredachi 3K, "Vestnik mashinostroyeniya", no. 8, 1956). It is particularly suitable for reducing the weight and size of gear transmissions, especially at high ratios. The difference in the tooth numbers of 3K mobile and immobile gears equals the satellite number (a_{red}) for instance

$$z_4 - z_3 = 2 \text{ (if } a_{red} = 2 \text{)} \quad (1)$$

Such satellite design is known for 2K-H (2K-N) transmissions at the central gear tooth number difference = 1 [Ref. 2: E. Buckingham Rukovodstvo po proyektirovaniyu zubchatykh peredach, chast' 2 (Manual of gear transmission design, Part 2), Mashgiz, 1948; Ref. 3: L.N. Reshetov, chapter "Planetarnye peredachi" ("Planetary gears")]

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Planetary 3K transmissions with common satellite

S/122/60/000/003/003/015
A161/A130

in the book "Detali mashin" ["Machine Parts"] edited by N.S. Acherkan, Mashgiz, 1953]. The transmissions discussed in this article are the most commonly used two- and three-satellite designs. When the transmission ratio i_{red} and the tooth number of the gear (1) are given, the calculation of tooth numbers for the other gears is simpler than usually, but it is not always possible to obtain a ratio very close to the wanted. Therefore, a system with a satellite split in two is more flexible. Taking $z_1 = 12$ to get smallest dimensions:

$$\begin{aligned} z_4 &= -5 + \sqrt{25 + 24i_{red}} \quad \text{at } a_{red} = 2; \\ z_4 &= -4.5 + \sqrt{20.25 + 36i_{red}} \quad \text{at } a_{red} = 3 \end{aligned} \quad (2)$$

The z_4 must be rounded off to the nearest whole number multiple of the satellite number. The whole reduction gear will be

$$i_{red} = i_{1-B}^3 i_{B-4}^3 = \left(1 + \frac{z_3}{z_1}\right) \left(\frac{z_4}{z_4 - z_3}\right) \quad (3)$$

The satellite tooth number

$$z_2 = \frac{z_4 - z_1}{2} - 1 \quad \text{if } (z_4 - z_1) \text{ difference is an even number, and}$$

Card 2/ 4

Planetary 3K transmissions with common satellite

S/122/60/000/003/003/015
A161/A130

$$z_2 = \frac{z_4 - z_1}{2} = 0.5, \text{ if } (z_4 - z_1) \text{ is an uneven number.}$$

To prevent interference in mesh and cutting and to improve operation in mesh, the shift coefficient for the gear (4) is to be $\xi_4 = +0.25$, and the addendum circles radii of gears (3) and (4):

$$R_{e4} = R_{e3} = r_{p4} - 0.6 m \quad (5)$$

where r_{p4} is the pitch circle radius of the gear (4), and m - the module. The parameters of such gears (4) (with tooth number from 28 to 125) are available in literature (Ref. 2). Practical calculation examples are given. Further calculations can be made using graphs of V.N. Kudryavtsev [Ref. 4; Zubchatyye peredachi (Gear transmissions), Mashgiz, 1957]. The suggested tooth number selection and correction system simplifies calculations and gives accurate gears. If same correction will be used for the gears (4) and same tooth number for the gear (1) - reduction gears with different ratios will be possible to produce in alike casings and with alike gears. Besides, the use of solid satellites will reduce the number of gear rims to be cut (from 9 to 6 at $a_{red} = 3$, and from 7 to 5 at $a_{red} = 2$), and grinding of the satellite teeth will be possible (which improves the transmission efficiency). Such reduction transmissions are recommended for ratios between 60 and 1,000 for all applications where an efficiency factor of 0.7-0.8 is acceptable.

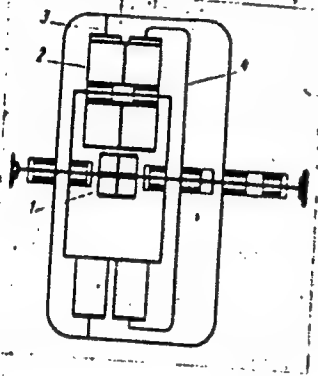
Card 3/4

Planetary 3K transmissions with common satellite

S/122/60/000/003/003/015
A161/A130

and the size and weight have to be small. Naturally, a check calculation for strength is always obligatory. There are 3 figures and 4 Soviet-bloc references.

Fig. 1:



Card 4/4

Yastrebov, V.M.

S/145/60/000/005/004/010
D221/D301

AUTHOR:

V.M. Yastrebov, Candidate of Technical Sciences

TITLE:

Investigation of a small planetary reducer with a parasitic satellite

PERIODICAL:

Izvestiya vysshikh uchebnykh zavedeniy. Mashinostroyeniye, no. 5, 1960, 51 - 54

TEXT:

The unit has two internal gears and a common satellite, and its efficiency attains 80 % (Fig.1). The ratio of the spider, B, to the gear, 1, is given by

$$i_{B-1}^{(2)} = \frac{1}{1 - i_{1-3}^B} = \frac{1}{1 - \frac{z_2}{z_1} \cdot \frac{z_3}{z_2}} = \frac{z_1}{z_1 - z_3}$$

The case is considered where the difference of teeth between the moving (z_1) and stationary (z_3) gears is unity. The unit is distinguished

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Investigation of a small ...

S/145/60/000/005/004/010
D221/D301

by its simplicity. The ratio of conversion is equal the number of teeth of the moving gear and does not depend upon the satellite. This precludes interference and maintains a high efficiency of the reducer. The satellite has one crown, and , therefore, can be ground after treatment. The design of these units is recommended for ratios from 30 to 150. A detailed description is given of the gears and their correction. They were machined by a standard Fellow-cutter of 20° pressure angle. The coefficients of specific slip at the pitch point for gear 3 varied between + 0.06 and + 0.12, whereas for the satellite they were - 0.06 to - 0.14. There was no interference or pointing by the tool. Two units were manufactured and tested. The gears were made in 18 XHBA (18KhNVA) steel and hardened to 37 - 42 units of Rockwell scale. The satellite was made of 12X H3A (12KhNZA) steel and case hardened to 58 - 62 Rockwell, with subsequent grinding. The second reducer has gears in 45 steel with 130 - 150 Brinell hardness. The teeth of the satellite were hobbled. The units were tested at speeds of 766 and 1518 rpm, using AK-10 and YT(UT) oils. The hobbled satellite exhibited a lower efficiency. The reducers can work as step-up units. The investigations revealed that

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Investigation of a small ...

S/145/60/000/005/004/010
D221/D301

their efficiency coefficient does not depend on their ratio. Calculation of tooth strength should be limited to bending. Special attention must be paid to the bearings, because their life determines the term of service of the whole reducer. This type of design is recommended for instances, where 70 - 80 % efficiency is adequate, and compactness and co-axiality with a high ratio are required. There are 5 figures and 3 references: 2 Soviet-bloc and 1 non-Soviet-bloc.

ASSOCIATION: Izhevskiy mekhanicheskiy institut (Izhev Mechanical Engineering Institute)

SUBMITTED: December 23, 1957

Card 3/4
3

YASTREBOV, V.M., kand.tekhn.nauk

Theoretical investigation of a plunger transmission. Izv.vys.
ucheb.zav.; mashinostr. no.8:27-36 '62. (MIRA 15:12)

1. Izhevskiy mekhanicheskiy institut.
(Gearing)

YASTREBOV, V.M.; GOL'DFARB, V.I.

[Tables of coordinates of the curvature radii and vector radii of the points of involutes for gear wheels with numbers of teeth from 12 to 120] Tablitsy koordinat radiusov krivizny i radiusov-vektorov tochek evol'vent dlia koles s chislami zub'ev ot 12 do 120. Moskva, Mashino-stroenie, 1964. 157 p.

(MIRA 17:12)

YASTREBOV, V.M., kand. tekhn. nauk; YANCHENKO, T.A., inzh.

Period of contact of an internal engagement with a small difference
in tooth number. Izv. vys. ucheb. zav.; mashinostr. no.8:23-30 '65.
(MIRA 18:10)

YASTREBOV, V.M., kand. tekhn. nauk; RUSANOVA, V.I., starshiy
prepodavatel'

Experimental investigation of planetary transmissions
with a free pole and single-rim satellites. Izv. vys.
ucheb. zav.; mashinostr. no.9:75-78 '65. (MIRA 18:11)

YASTREBOV, V.M., kand. tekhn. nauk; LAZAREV, V.I., inzh.

The 3K planetary transmission cn with a single-toothed satellite.
Vest. mashinostr. 45 no. 12:7-10 D'65 (MIRA 19:1)

ACCESSION NR: AP4042412

S/0056/64/047/001/0382/0383

AUTHOR: Al'tshuler, S. A.; Yastrebov, V. N.

TITLE: Electron-nuclear paramagnetic resonance on V^{3+} ions in corundum

SOURCE: Zh. eksper. i teor. fiz., v. 47, no. 1, 1964, 382-383

TOPIC TAGS: electron nuclear paramagnetic resonance, electron nuclear resonance, corundum, vanadium impurity

ABSTRACT: Electron-nuclear paramagnetic resonance has been experimentally displayed in corundum doped with V^{3+} . The measurements were performed by means of a nuclear resonance spectrometer with elevated sensitivity, which made it possible to obtain on the aluminum nuclei a signal-to-noise ratio of the order of several thousands at helium temperatures. Measurements involved the use of an improved Pound's diagram in the spectrometer and the method of synchronous detection. The corundum specimen investigated had a volume of 0.1 cm^3 and a concentration of V^{3+} ions of approximately 0.5% in relation to the number of Al^{3+} ions. When the crystal was

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ACCESSION NR: AP4042412

oriented so that the angle θ between its trigonal axis and external magnetic field H lay within a range from 20° to 45° , a clear resonance line, corresponding to transition $\pm 1/2$, is observed at a temperature of 1.5K. The width of the line is 0.2—0.3 Mc. By increasing the temperature to 4.2K the line broadens and the effect disappears. At angles less than 20° or greater than 45° the effect cannot be observed because the line is too broad. In the first case ($<20^\circ$), the cause of broadening is a strong decrease of the gyromagnetic ratio γ at small θ (the measurements were performed at a constant generator frequency of approx 6 Mc by changing the field H); in the second case ($>45^\circ$) the cause was the merging of the principal absorption line with the side lines. Because of the great width, the positions of only four side lines, corresponding to transitions $\pm 1/2 \rightarrow \pm 3/2$ and $\pm 3/2 \rightarrow \pm 5/2$, were established.

ASSOCIATION: Kazanskiy gosudarstvennyy universitet (Kazan State University)

SUBMITTED: 22Apr64

ATD-PRESS: 3083

SUB CODE: NP

NO REF SOV: 003

ENCL: 00

Card 2/2

OTHER: 000

AL'TSHULER, S.A.; YASTREBOV, V.N.

Electron-nuclear paramagnetic resonance on V^{3+} ions in
corundum. Zhur. eksp. i teor. fiz. 47 no.1:382-383 J1 '64.
(MIRA 17:9)

1. Kazanskiy gosudarstvennyy universitet.

ACC NR: AP/005334

SOURCE CODE: UR/0181/67/009/001/0129/0133

AUTHOR: Yastrebov, V. N.

ORG: Kazan' State University im. V. I. Ul'yanov-Lenin (Kazanskiy gosudarstvennyy universitet)

TITLE: Investigation of magnetic resonance at the simple electronic levels of V^{3+} ions in corundum

SOURCE: Fizika tverdogo tela, v. 9, no. 1, 1967, 129-133

TOPIC TAGS: electron paramagnetic resonance, nuclear magnetic resonance, paramagnetic ion, corundum, line broadening, line splitting

ABSTRACT: This is a continuation of earlier work (ZhETF v. 47, 382, 1964), where an unsuccessful attempt was made to observe resonance absorption at 4.2K. In the present investigation, resonance absorption with a sufficient signal/noise ratio was obtained by observing electron-nuclear magnetic resonance, which is intermediate between EPR and NMR and comes into play when the role of the electrons greatly exceeds the role of the nucleus. The main purpose was to observe paramagnetic resonance absorption due to transitions between sublevels of simple electronic levels of paramagnetic ions, with V^{3+} in corundum as an example. Most experiments were made at frequencies 5000 - 6000 kHz, with a nuclear resonance spectrometer of increased sensitivity, using an autodyne procedure, shallow Zeeman modulation, and synchronous detection. Most samples were cylindrical, and the trigonal-axis orientation ranged from 10 to 50°.

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ACC NR: AF7005334

The results showed that magnetic resonance between sublevels of simple levels is possible in the case of V^{3+} . The spin Hamiltonian is derived and its constants are determined, and possible mechanisms of spectral line broadening are discussed. The values of the initial splitting and of the quadrupole interaction constants are also determined. The results indicate that most of the broadening is inhomogeneous. The author thanks S. A. Al'tshuler for continuous interest in the work. Orig. art. has: 1 figure and 8 formulas.

SUB CODE: 20/ SUBM DATE: 30May66/ ORIG REF: 007/ OTH REF: 006

Card 2/2

L 40009-66 EWT(1) GW

ACC NR: AT6017053

SOURCE CODE: UR/2566/65/074/000/0067/0076

AUTHOR: Yastrebov, V. S.

ORG: none*

TITLE: The electrohydraulic servodrive mechanism for sea operation ✓

SOURCE: *AN SSSR. Institut okeanologii. Trudy, v. 74. 1965. Elektronnyye pribory dlya okeanologicheskikh issledovaniy (Electronic instruments for oceanological research), 67-76

TOPIC TAGS: servomechanism system, hydraulic equipment, underwater equipment ✓

ABSTRACT: The remote control system for a hydraulic drive designed to operate under water at depths of 300-500 m is analyzed. The drive can develop power up to 600 kg and has an operating speed of 10 cm/sec. It was developed at the Laboratory of Sea Electronics, IO AN SSSR. A block diagram of the feedback control system is given and the parameters and time constants of the transfer function are calculated. The calculated data were used in selecting proper parameters for the system to improve the stability of the instrument and establish its important dynamic characteristics. The testing of the servomechanism consisted of the measurement of the phase relations between input and output signals. The results closely agree with the calculations. A harmonic frequency close to expected input signal was used in the testing. The measure

Card 1/2

L 40009-66

ACC NR: AT6017053

ments showed that the signal processing results in very small errors. It is concluded that a well designed instrument will be independent of the viscosity and specific weight of the water environment. Orig. art. has: 5 figures, 30 formulas.

SUB CODE: 09,08/ SUBM DATE: none/ ORIG REF: 006

na
Card 2/2

YASTREBOV, V.V.

GURVICH, A.M., SHAULOV, Yu.Kh; VANICHEV, A.P., professor, redaktor;
YASTREBOV, V.V., redaktor; MIKHAYLOVA, T.A., tekhnicheskii redaktor.

[Thermodynamic investigations by the method of explosion and computation of combustion processes] Termodinamicheskie issledovaniia metodom vzryva i rashchety protsessov goreniia. [Moskva] Izd-vo Moskovskogo univ. 1955. 162 p. (MLRA 8:11)
(Combustion) (Explosions)

5(4)

AUTHORS:

Yastrebov, V. V., Kobozev, N. I.

SOV/76-33-3-22/41

TITLE:

Physical Chemistry of Concentrated Ozone (Fiziko-khimiya kontsentrirrovannogo ozona). IV. Explosibility of Concentrated Ozone Under Thermal Effects (IV. Vzryvnaya chuvstvitel'nost' kontsentrirrovannogo ozona po otnosheniyu k teplo-
vym vozdeystviyam)

PERIODICAL:

ABSTRACT:

Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 3, pp 649-655(USSR)
The previous paper was published in Zhurnal fizicheskoy khimii, 1957, Vol 31, pp 2547. The present experimental results were obtained in the paper (Ref 1). Recently two papers were published (Refs 2,3) in which the explosibility of mixtures of ozone and oxygen as a function of the effect of an electric spark was investigated. No investigations were made, however, of the explosibility of pure liquid or gaseous ozone. A well-suited method for these determinations consists in the measurement of the minimum temperature and the minimum energy which is required for causing an explosion by means of electrically heated wire resistors.

Card 1/3

Physical Chemistry of Concentrated Ozone. IV. Explosibility SOV/76-33-3-22/41
of Concentrated Ozone Under Thermal Effects

In the present case tungsten wires were used for this purpose and a corresponding electric circuit was devised (Fig 1). The checks were made by means of a Dewar container (Fig 2). Liquid ozone bursts as soon as the wires have attained a temperature of 210-220°, gaseous ozone bursts already at 100°C, the wire thickness being unimportant. Experiments in which heated metal plates are hit by drops of liquid ozone, have shown that an explosion at 100-200°C takes place irrespective of the kind of metal, which confirms the above-mentioned observations. As far as thermal effects concerned, liquid ozone is more sensitive than nitro-glycerin and nitrogen chloride (Ref 4). Since gaseous ozone bursts sooner than liquid ozone, it is assumed that in the explosion of liquid ozone first part of O₃ evaporates, the resulting gas bursts and the explosion is then transferred to the liquid. The temperature difference between the initiating temperature of gaseous and liquid O₃ is assigned to the thermal energy that

Card 2/3

Physical Chemistry of Concentrated Ozone. IV. Explosibility SOV/76-33-3-22/41
of Concentrated Ozone Under Thermal Effects

is required for evaporation of the aforesaid portion of
liquid O_3 . There are 3 figures, 3 tables, and 10 refer-
ences, 5 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
(Moscow State University imeni M. V. Lomonosov)

SUBMITTED: August 2, 1957

Card 3/3

5(4)

SOV/76-33-4-6/32

AUTHORS: Pitakhelauri, Ye. N., Yastrebov, V. V.

TITLE: Physical Chemistry of Concentrated Ozone (Fiziko-khimiya kon-tsentrirrovannogo ozona). V. Determination of the Dielectric Constant of Liquid Ozone and Its Solutions in Oxygen (V. Opre-deleniye dielektricheskoy pronitsayemosti zhidkogo ozona i yego rastvorov v kislorode)

PERIODICAL: Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 4, pp 790-792 (USSR)

ABSTRACT: The preceding paper dealing with this subject was published in Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 3. The dielectric constant ϵ was determined by the measurements of capacity of a condenser filled with the substance to be investigated. An apparatus was constructed for continuous measurements, featuring a protecting jacket. The current was supplied by means of a current rectifier of the type EPA-15, a coaxial cable ARK-1 with an air-plastic-insulation RK-61 was used for the line circuit. The working principle of the apparatus is that a circuit between the generator and the amplifier of the high frequency oscillation changes in dependence on the change of the capacity of the ΔC source. The analysis of the liquid ozone-oxygen solutions was carried out according to

Card 1/2

30V/76-33-4-6/32

Physical Chemistry of Concentrated Ozone. V. Determination of the Dielectric Constant of Liquid Ozone and Its Solutions in Oxygen

two methods. Mixtures containing up to 6% O_3 were evaporated directly in a KJ solution and iodometrically analyzed, whereas pure O_3 was determined according to the explosion method.

A comparison of the ϵ for pure ozone and the O_3 - O_2 mixtures shows (Table) that the coefficient $\Delta\epsilon/\Delta C$ for concentrations of 1-6% ozone remains approximately constant (0.02) whereas in highly concentrated ozone mixtures it is $\Delta\epsilon/\Delta C = 0.0395$. In the entire concentration range of the ozone oxygen mixtures no additivity of the ϵ could be observed. For a mixture with 6% O_3 ϵ was found to be 1.595 (up to $-183^\circ C$) which is in good agreement with data from reference 5. Pure ozone had a value $\epsilon = 5.45 \pm 0.1$ (at $-196^\circ C$). There are 1 table and 5 references, 1 of which is Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
(Moscow State University imeni M. V. Lomonosov)

SUBMITTED: August 2, 1957

Card 2/2

5(4)

AUTHORS:

Yastrebov, V. V., Pitzhelauri, Ye. N.,
Kobzarev, N. I.

SOV/76-33-6-7/44

TITLE:

Physical Chemistry of Concentrated Ozone (Fiziko-khimiya kontsentrirrovannogo ozona).
VI. Explosion Susceptibility of Ozone-Oxygen Solutions With Respect to Thermal Impulses (VI. Vzryvnaya obozstvitel'nost' ozono-kislorodnykh rastvorov po otnosheniyu k teplovym impul'sam)

PERIODICAL:

Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 6, pp 1209-1213 (USSR)

ABSTRACT:

An investigation was carried out of the explosion susceptibility (ES) of liquid ozone - oxygen (I) mixtures (with 15 - 90% ozone) with respect to heat impulses by the method of electric ignition. The (I) mixtures in different concentrations were melted in glass ampoules, in which tungsten wires were introduced by a special procedure. Two series of experiments were made (with higher concentrated mixtures (with respect to ozone) and smaller sampling quantities on the one hand, and experiments with low concentrated mixtures and larger sampling amounts (up to 150 cm³) on the other), which differed somewhat as to the working technique. For each experimental series, determination was made of the two values (burning energy of the wire, and the Joule heat liberated with the current passage through the

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Physical Chemistry of Concentrated Ozone. VI. Explosion SOV/76-33-6-7/44
Susceptibility of Ozone-Oxygen Solutions With Respect to Thermal Impulses

wire). Seven experimental series were carried out, five of which under laboratory conditions, and two on a larger scale. Experimental data for each of these series are given separately (Table 1) as well as data concerning the (ES) with respect to the different thermal impulses (Table 2). Results show that the (ES) of ozone drops sharply with dilution by oxygen. The explosion limit is set at the ozone concentration c (in wt%), in which the thermal impulse exhibits a lower energy E (in cal) than would be required on the strength of equation $E = 186 \exp(-c/6.9)$. There are 1 figure, 2 tables, and 3 references, 2 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
(Moscow State University imeni M. V. Lomonosov)

SUBMITTED: September 5, 1957

Card 2/2

5 (4)

AUTHORS:

Yastrebov, V. V., Kobozev, N. I.

SOV/76-33-8-5/39

TITLE:

Physical Chemistry of Concentrated Ozone. VII Concentration
Limits of Flame Propagation in Gaseous Ozone Mixtures

PERIODICAL:

Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 8, pp 1701-1708 (USSR)

ABSTRACT:

The experimental material contained in the present paper was mentioned in (Ref 1). The explosiveness (E) of the following gas mixtures was investigated: ozone (I) + oxygen (II), (I) + nitrogen (III), (I) + carbon dioxide (IV), (I) + argon (V), (I) + chlorine (VI), and (I) + carbon tetrachloride vapor (VII). The explosions took place in two cylindrical glass vessels of different dimensions at a total pressure of up to 1 atm in an appropriate unit (Fig 1). The ignition was by an electric spark between two platinum wires, the pressure reading being taken by means of an Hg-manometer. The studies of the (I)-(II) mixtures were undertaken at various temperatures between -77° and +60°C, and the share of decomposed (I) was found by the rise in pressure. Studies of the mixing of (I) and (II) were made (Table 2). The results obtained in the experiments (Table 1) show that the explosion limit (EL) of the (I)-(II) mixtures is independent of the size of the reaction vessel, as well as of the ignition

Card 1/2

Physical Chemistry of Concentrated Ozone. VII Con-
centration Limits of Flame Propagation in Gaseous Ozone Mixtures

SOV/76-33-8-5/39

spark force. At a lowering of the temperature, the (EL) rises rapidly, amounting to 14.3 mol% (I) at -77° and 1 atm. Further experiments showed that in the systems (I) + (II), (I) + (III), (I) + (IV), and (I) + (V) there are very distinct concentration limits of the (E). In the coordinates $p_{O_2} - p_x$ (p_x = partial

pressure of the gas added to (I)) these limits constitute monotonous functions approaching linearity as the pressure increases. In the systems (I) + (VI) and (I) + (VII) these limits are somewhat blurred. Diatomic gases and (IV) exhibit practically the same (EL), i.e. 10.4 mol% (I) (1 atm, 20°C), while the (EL) is somewhat lower for (V) (8.8 mol% (I)), and somewhat higher for (VII) than in case of the other mixtures. There are 11 figures, 2 tables, and 5 references, 1 of which is Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
(Moscow State University imeni M. V. Lomonosov)

SUBMITTED: September 5, 1957
Card 2/2

FROST, Andrey Vladimirovich, prof. [deceased]; Prinimali uchastiye:
 BUSHMAKIN, I.N.; VVEDENSKIY, A.A.; GRYAZNOV, V.M.; DEMENT'YEVA,
 M.I.; DINTSES, A.I.; DOBRONRAYOV, R.K.; ZHARKOVA, V.R.; ZHERKO,
 A.V.; IPAT'YEV, V.N.; KVIATKOVSKIY, D.A.; KOROBV, V.V.; MOOR,
 V.G.; NEMTSOV, M.S.; RAKOVSKIY, A.V.; REMIZ, Ye.K.; RUDKOVSKIY,
 D.M.; RYSAKOV, M.V.; SEREBRYAKOVA, Ye.K.; STEPUKHOVICH, A.D.;
 STRIGALEVA, N.V.; TATEVSKIY, V.M.; TILICHEYEV, M.D.; TRIFEL',
 A.O.; FROST, O.I.; SHILIYAYEVA, L.V.; SHCHEKIN, V.V.; DOLGOPOLOV,
 M.M., sostavitel'; GERASIMOV, Ya.I., .otv.red.; SMIRNOVA, I.V., red.;
 TOPCHIYEVA, K.V.; YASTREBOV, V.V., red.; KONDRASHKOVA, S.V., red.
 izd-va; LAZAREVA, L.V., tekhn.red.

[Selected scientific works] Izbrannye nauchnye trudy. Moskva,
 Izd-vo Mosk.univ., 1960. 512 p. (MIRA 13:5)

1. Chlen-korrespondent AN SSSR (for Gerasimov).
 (Chemistry, Physical and theoretical)

YASTREBOV, V.V.

Equivalent electric circuit of an ozonizer. Zhur. fiz. khim.
34 no. 11:2393-2395 N '60. (MIRA 14:1)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova.
(Ozone)

5.2400(0) 5.4700

68337

~~5-4~~

AUTHOR:

Yastrebov, V. V.S/076/60/034/01/007/044
B010/B014

TITLE:

Physical Chemistry of Concentrated Ozone. VII. Thermal
Propagation of a Flame in Gaseous Mixtures of Ozone

PERIODICAL:

Zhurnal fizicheskoy khimii, 1960, Vol 34, Nr 1, pp 46 - 50 (USSR)

ABSTRACT:

In this paper the author attempted to explain the experimental results described in reference 1 from the thermodynamic point of view. It may be assumed that the propagation of the flame front is determined by the following quantities: 1) by the heat amount q evolved in ozone combustion, which is proportional to its partial pressure in the gaseous mixture; 2) by the heat amount q_1 , which is necessary to heat the gaseous layer in front of it to a certain temperature. It is proportional to the heat capacity C_p of the mixture; 3) by the heat losses q_2 , which are proportional to the thermal conductivity λ of the mixture. Equation (5) was derived on this assumption (cf Figure on p 47). It defines the effect of the partial pressure of the solvent upon the explosion limit of ozone. With the neglects made it describes the position of the explosion limit at almost atmospheric pressures. The interpretation of the explosion limit suggested allows to

Card 1/2

11-8300

11.11.20

S/076/61/035/012/001/008
B101/B138

AUTHORS: Yastrebov, V. V., and Kozunenکو, O. I.

TITLE: Passage of a gaseous ozone detonation through capillaries

PERIODICAL: Zhurnal fizicheskoy khimii, v. 35, no. 12, 1961, 2666 - 2669

TEXT: In previous works (Zh. fiz. khimii, 33, 649, 1701, 1959; 34, 46, 1960) the authors found that flame and detonation propagated very easily in ozone gas. This effect was studied in the present paper. A flame ignited by an electric spark in a closed cylindrical vessel was conducted through a capillary into a second closed vessel of equal size. The authors used capillaries 20 cm long with an inside diameter of 0.216 - 2.40 mm. The evacuated vessels were filled (through the upper one) with pure oxygen-free ozone of partial pressure 100 - 300 mm Hg. The detonation would not pass along the capillary unless the pressure was high enough. Negative and positive results were observed at 20°C and pressures of 103 - 172 mm Hg, with a capillary 0.222 mm in diameter. The pressure at which the detonation will start to pass along the capillary is called

Card 1/3

31182

S/076/61/035/012/001/008

B101/B138

Passage of a gaseous ozone...

limiting pressure and is expressed by the equation: p_{lim}
 $= p_{min} + \Delta p(n^-/n) = p_{max} - \Delta p(n^+/n)$. Δp is the pressure range (in mm Hg)
 within which passage will occur; p_{min} and p_{max} are its limits, n is the
 number of experiments, n^- is the number of negative, n^+ that of positive
 experimental results. p_{min} was between 118 and 121 mm Hg. The dependence
 of p_{lim} on the capillary diameter (in mm) was found to be $p_{lim} = K/D$
 (D = diameter, $K = 30$). This linear dependence is only disturbed at
 $1/D < 1 \text{ mm}^{-1}$. Attempts were made to determine the propagation velocity of
 the detonation due to the ionizing of the gas, recording the current
 formed between two electrodes soldered into the bulbs with an OK-17M
 (OK-17M) oscilloscope. These yielded inaccurate data as the conductivity
 of the gas only increased gradually during the passage of the flame.
 Using a photorecorder (for $D = 0.799 \text{ mm}$), the authors found that the
 velocity of detonation passage through the capillary was approximately
 1800 m/sec at sufficiently high pressure (264 mm Hg). In both bulbs the
 shock waves are reflected on the ends, passing many times through the

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B101/B138

Passage of a gaseous ozone...

bulbs leaving zigzag traits. At lower pressure (139 mm Hg), the detonation in the capillary is destroyed re-occurring with some delay at the end of the second bulb. At 136 mm Hg, the detonation wave in the first bulb only occurs at the capillary entrance. The propagation velocity of about 1800 m/sec remained unchanged. The flame spectrum only showed the D doublet of Na due to impurities. This is a secondary effect caused by the high temperature of the detonation wave. A monograph by Yu. Kh. Shaulov is mentioned: Rasprostraneniye plameni cherez poristyye sredy (Flame propagation through porous media), Izd-vo AN SSSR, 1954. There are 3 figures, 1 table, and 9 references: 5 Soviet and 4 non-Soviet. The four references to English-language publications read as follows: G. A. Cook, E. Spadinger, A. D. Kiffer, Ch. V. Klumpp, Ind. Eng. Chem., 48, 736, 1956; G. M. Platz, C. K. Hersch, Ind. Eng. Chem., 48, 742, 1956; A. G. Streng, A. V. Grosse, J. Chem. Phys., 29, 1517, 1957; A. G. Streng, C. S. Stokes, L. A. Streng, J. Chem. Phys., 29, 456, 1958.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
(Moscow State University imeni M. V. Lomonosov)

SUBMITTED: November 17, 1959
Card 3/3

X

SHCHELKIN, Kirill Ivanovich; TROSHIN, Yakov Kirillovich;
SEMENOV, N.N., akademik, otv. red.; YASTREBOV, V.V.,
red.; MAKAGONOVA, I.A., tekhn. red.; POLYAKOVA, T.V., tekhn. red.

[Gas dynamics of combustion] Gazodinamika gorenii. Mo-
skva, Izd-vo AN SSSR, 1963. 254 p. (MIRA 17:1)

BAGOTSKIY, V.S., prof., doktor tekhn. nauk, otv. red.; VASIL'YEV,
Yu.B., kandi. khim. nauk, otv. red.; YASTREBOV, V.V., red.

[Fuel cells; some theoretical problems] Toplivnye elementy;
nekotorye voprosy teorii. Moskva, Nauka, 1964. 139 p.
(MIRA 17:9)

1. Soveshchaniye po toplivnym elementam. 2d, Moscow, 1962.

PRUTYANOV, I.P.; YASTREBOV, V.V.

Eliminating serious circulation loss in well No.1 in the prospecting
region of Tyube-Catan in the Uzbek S.S.R. Burenie no.7:14-17 '64.
(MIRA 18:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut burovoy tekhniki.

YASTREBOV, YE. V.

Geology, Structural

Traces of Quaternary tectonics in the northern
Urals. Biul. Kom. chetv. per., No. 16, 1951

Monthly List of Russian Accessions, Library of Congress, June 1952. UNCLASSIFIED.

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Volcanic group of Bol'shoy Semyachik.
S-0 '53.

Izv. Vses. geog. ob-va 85 no. 5:588-595
(MLRA 6:10)
(Bol'shoy Semyachik volcanoes)

YASTREBOV, E. V.

USSR/Geography - Waterfall

Card 1/1 : Pub. 86 - 33/46

Authors : Yastrebov, E. V., Cand. Geograph. Sci.

Title : Waterfall on the Noviy Semyachik River

Periodical : Priroda, 43/9, 115-116, Sep 1954

Abstract : A description is given of the Noviy Semyachik River in the Kamshatka Peninsula and of a waterfall located about halfway between its source and its mouth. Illustration.

Institution :

Submitted :

YASTREBOV, Ye.V., kandidat geograficheskikh nauk

Giant larch. Priroda 44 no.8:117 Ag '55. (MLRA 8:10)

1. Ural'skiy gosudarstvennyy universitet, Sverdlovsk
(Larch)

YASTREBOV, Ye.V., kand.geograficheskikh nauk, dotsent

Geomorphological regions of Sverdlovsk Province. Zap. Ural otd.
Geog. ob-va SSSR no.2:13-38 '55. (MIRA 16:12)

YASTREBOV, Ye.V., kand.geograf. nauk, dotsent

Lake Pelymskiy Tuman. Zap. Ural otd. Geog. ob-va SSSR no.2:183-194
'55. (MIRA 16:12)

DEBSBAKH, N.K.; PROKAYEV, V.I.; YASTREBOV, Ye.V.

All-Ural conference on problems of dividing the Urals into
physical geography districts. Lav. Naes.geog.ob-vn.88 no.4:
419-422 J1-Ag '56. (MLRA 9:10)

(Ural Mountains--Physical geography)

47-0111-0019-001

AUTHOR: Yastrebov, Ye. V. 50-2-6/22

TITLE: The Strong Squall in the Northern District of the Ural
(Sil'nyy shkval v Severnom Priural'ye).

PERIODICAL: Meteorologiya i Gidrologiya, 1958, Nr 2, pp. 30-32 (USSR)

ABSTRACT: On May 23, 1957 a squall of extraordinary power was observed in this area. It swept over Cherdyn', Nyrob, Krasnovishersk, and many other towns and left numerous traces of destruction. According to the opinion of co-operators of the Cherdyn' Meteorological Station and the Hydrometeorological Observatory Perm's the velocity of wind at this period reached 20-25 m/sec, some squalls probably reached 30-40 m/sec and even more which could be judged from the effects of the squall. Atmospheric pressure changed strongly for several times during the period from 15-16 hours (fig.1). Atmospheric temperature dropped within one hour by more than 10° (fig.2). Within this short period the relative atmospheric moisture increased from 65 to 100%. The synoptic conditions in the Ural and the neighbouring areas were the following on May 23, 1957: A broad cyclone

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The Strong Squall in the Northern District of the Urals

50-2-6/22

entered over Western Siberia the crest of which was directed towards the European part of the USSR. Cold arctic air masses coming from the Barent Sea and the Sea of Kara rapidly spread over the South-Western circle towards south-east.

For the investigation of the material damage caused by the squall in various towns of the northern Uralian district special committees were formed. The damages caused by the huge destructive power of this cyclone can be learned from their papers.

The wood stock of the woods destroyed by the wind were estimated approximately to 100.000 m³. Since the existence of the meteorological station in the town of Cherdyn' (1877) a squall of such power was observed here for the first time. There are 3 figures.

AVAILABLE: Library of Congress

Card 2/2

YASTREBOV, Ye.V., kand.geograficheskikh nauk

Conservation of valuable geomorphological monuments in the Urals.
Okhr. prir. na Urale no.1:27-31 '60. (MIRA 14:4)
(Ural Mountain region--Natural monuments)

YASTREBOV, Ye.V., kand.geograficheskikh nauk

The Kizel Cave as an interesting natural monument of the Urals.
Okhr. prir. na Urals no.1:141-147 '60. (MIRA 14:4)
(Kizel region—Caves)

YASTREBOV, Ye.V., kand. geogr. nauk, dotsent

Some morphological characteristics of the drainage network of
the Loz'va River basin as indications of recent tectonic
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Total solar eclipse observed in Sverdlovsk Feb. 15, 1961.
Zap.Ural fil. Geog. ob-va SSSR no.4:163-164 '61.

(MIRA 18:12)

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Cave "pearl." Priroda 50 no.8:68 Ag '61.
(Kizel region--Caves) (Calcite)

(MIRA 14:7)

YASTREBOV, Ye.V., kand.geograf.nauk, (Moskva)

A talented Russian naturalist; 250th anniversary of the birth
of P.I. Rychkov. Priroda 51 no.10:91-92 0 '62. (MIRA 15:10)
(Rychkov, Petr Ivanovich, 1712-1777)

YASTREBOV, Ye.V.; KOLESNIKOV, B.P.

Materials on taking stock of natural monuments in the Urals
requiring protection. Report No.3. Okhr.prir.na Urale no.3:
127-132 '62. (MIRA 16:6)
(Ural Mountains--Natural monuments)

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"State and problems of the protection of nature in Bashkiria."
Reviewed by E.V.Iastrebov. Okhr.prir.na Urale no.3:182-184 '62.
(MIRA 16:6)

(Bashkiria—Conservation of natural resources)

YASTREBOV, Yevgeniy Veniaminovich; KATKOVA, N., red.

[Along the Chusovaya River; tourist guide] Po reke Chusovoi;
putevoditel' turista. Sverdlovsk, Sverdlovskoe knizhnoe izd-
vo, 1963. 184 p. (MIRA 17:4)

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Uch. zap. MOPI 124:109-119 '63.

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At the sources of Russian geography; the 500th anniversary
of the birth of Dmitrii Gerasimov. Priroda 55 no.1:101-103
Ja '66. (MIRA 19:1)

which satisfy the same properties which do not belong to groups. The pair given by

$$\Gamma_{\mu\nu}^{\alpha} = u^{\alpha}(-a_{\mu\nu}u^{\alpha}u^{\alpha} + a_{\mu\nu}) - \delta_{\mu\nu}a_{\mu\nu}u^{\alpha}$$

$$\Gamma_{\mu\nu}^{\alpha} = u^{\alpha}(-a_{\mu\nu}u^{\alpha}u^{\alpha} - a_{\mu\nu}) + \delta_{\mu\nu}a_{\mu\nu}u^{\alpha}$$

where $a_{\mu\nu} = -a_{\nu\mu}$, constitutes for $n \geq 4$ a unique such class of manifolds. For $n = 3$, the case of the projective space is a special discussion of the subprojective case.

D. J. Struik (Cambridge, Mass.).

Source: Mathematical Reviews,

Vol 13 No. 9

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YASTREBOV, Yu.N., kand.fiziko-matematicheskikh nauk, dotsent; VAKARCHUK, B.
S., inzh.

Some analytic indications of the distribution of straight lines in
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YASTREBOVA, A.

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(Machine accounting)

YASTREBOVA, A., inzh.

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1. Obuvnaya fabrika "Pobeda Oktyabrya".

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red.; NOVOSELOVA, V.V., tekhn. red.

[Characteristics of the spoken and written language of stam-
mering pupils; the primary grades of the public school] Osoben-
nosti ustnoi i pis'mennoi rechi u zaikailushchikhsia uchashchikh-
sia; mladshie klassy massovoi shkoly. Moskva, Izd-vo Akad. pe-
dagog. nauk RSFSR, 1962. 54 p. (MIRA 16:1)
(STAMMERING)

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Equilibrium potentials of a copper electrode in pyrophosphoric
acid solutions. Zhur. fiz. khim. 38 no.6:1551-1556 Je '64.
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1. Institut fizicheskoy khimii AN SSSR.

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VAGRAMYAN, A.T.; YASTREBOVA, E.K.

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YASTREBOVA, G.A.

Permanent for clothing. Shvein.prom, no.6:33 N.D '59.
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14

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BOROVAYA, M.S., PUCHKOV, M.O., KAZANSKIY, V.L., BADIYSHTOVA, K.M.,
ROGACHEVA, I.M., CHESNOKOV, A.A., DENISENKO, K.K., ALTSHULER, A.G.,
GERASIMENKO, N.M., YASTREBOVA, G.I., ZHADANOVSKIY, N.B.

Production of High-grade petroleum oils and waxes by hydrogenation.

Report to be submitted for the Sixth World Petroleum Congress,
Frankfurt, 16-26 June 63

TYURINOVA, O.A.; YASTREBOVA, G.P.

Reaction of anide with ethanol. Zhur. fiz. khim. 38 no.6:
1642-1644, Je '64. (MIRA 18:3)

1. Kurganakiy sel'skokhozyaystvennyy institut.

YASTREBOVA, I.

Banks and Banking - Study and Teaching

Let us perfect our knowledge, Den. i kred, 11, No. 2, 1952.

Monthly List of Russian Accessions, Library of Congress, May 1952, Unclassified.

ACC NR: AP6025987

SOURCE CODE: UR/0079/66/036/007/1232/1236

AUTHOR: Pudovik, A. N.; Yastrebova, G. Ye.; Nikitina, V. I.

ORG: Kazan State University (Kazanskiy gosudarstvennyy universitet)

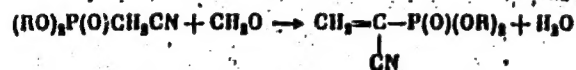
TITLE: Esters of α -cyanovinylphosphonic acid

SOURCE: Zhurnal obshchey khimii, v. 36, no. 7, 1966, 1232-1236

TOPIC TAGS: alkyl cyanovinylphosphonate, diethyl cyanovinylphosphonate, dibutyl cyanovinylphosphonate, ester, mercaptan, organic phosphorus compound

ABSTRACT:

Diethyl α -cyanovinylphosphonate (I) and di-n-butyl α -cyanovinylphosphonate (II) were obtained by the condensation of formaldehyde with diethyl and di-n-butyl phosphonoacetonitriles in the presence of piperidine in methanol:



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UDC: 547.313.2 : 546.185

ACC NR: AP6025987

Table 1.

Ser- found no	Compound	Yield (g %)	bp (p mm)	d ₄ 20	n _D 20	MP		Found XP	Formula	Calculated XP
						Found	Mineral			
I	$\text{CH}_2=\text{C}(\text{CN})\text{P}(\text{O})(\text{OC}_2\text{H}_5)_2$	21	82-83° (1)	1.1040	1.4420	45.31	44.74	18.85	$\text{C}_7\text{H}_{11}\text{NO}_2\text{P}$	18.60
II	$\text{CH}_2=\text{C}(\text{CN})\text{P}(\text{O})(\text{OC}_2\text{H}_5)_2$	25	96-98 (0.05) 118-109 (1)	1.0178	1.4450	63.72	63.22	19.20	$\text{C}_{11}\text{H}_{19}\text{NO}_2\text{P}$	19.65
III	$(\text{C}_2\text{H}_5\text{O})_2\text{P}(\text{O})\text{CH}(\text{CN})\text{CH}_2\text{P}(\text{O})(\text{OC}_2\text{H}_5)_2$	78.2	173-174 (2)	1.1708	1.4508	75.08	74.55	18.11	$\text{C}_{11}\text{H}_{19}\text{NO}_2\text{P}_2$	18.96
IV	$(\text{C}_2\text{H}_5\text{O})_2\text{P}(\text{O})\text{CH}(\text{CN})\text{CH}_2\text{P}(\text{O})(\text{OC}_2\text{H}_5)_2$	50.5	175-176 (0.07)	1.1328	1.4503	84.05	83.78	17.86	$\text{C}_{13}\text{H}_{17}\text{NO}_2\text{P}_2$	17.48
V	$(\text{C}_2\text{H}_5\text{O})_2\text{P}(\text{O})\text{CH}(\text{CN})\text{CH}_2\text{SCONH}_2$	54	133-135 (0.04)	1.1811	1.4725	82.84	82.33	11.82	$\text{C}_9\text{H}_{15}\text{NO}_2\text{PS}$	11.60
VI	$(\text{C}_2\text{H}_5\text{O})_2\text{P}(\text{O})\text{CH}(\text{CN})\text{CH}_2\text{SC}_2\text{H}_5$	49.3	118-119 (0.04)	1.1258	1.4733	82.58	82.32	12.57	$\text{C}_9\text{H}_{15}\text{NO}_2\text{PS}$	12.25
VII	$(\text{N}-\text{C}_2\text{H}_5\text{O})_2\text{P}(\text{O})\text{CH}(\text{CN})\text{CH}_2\text{P}(\text{O})(\text{OC}_2\text{H}_5)_2$	75	165-168 (0.08)	1.1060	1.4500	83.07	83.03	16.02	$\text{C}_{14}\text{H}_{21}\text{NO}_2\text{P}_2$	16.18
VIII	$(\text{N}-\text{C}_2\text{H}_5\text{O})_2\text{P}(\text{O})\text{CH}_2\text{CN}$	84	155-156 (8)	1.0350	1.4392	58.74	58.04	19.18	$\text{C}_8\text{H}_{13}\text{NO}_2\text{P}$	19.30
IX	$(\text{C}_2\text{H}_5\text{O})_2\text{P}(\text{O})\text{CH}(\text{CN})\text{CH}_2\text{P}(\text{O})\begin{matrix} \text{C}_2\text{H}_5 \\ \text{OC}_2\text{H}_5 \end{matrix}$	81.9	168-170 (0.08)	1.1580	1.4820	78.96	78.81	19.84	$\text{C}_{11}\text{H}_{19}\text{NO}_2\text{P}_2$	19.83

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ACC NR: AP6025987

The addition of dialkylphosphorous acids, ethyl-ethylphosphinates, ~~thioesters~~,
and ethyl mercaptan to I and II gave the corresponding esters shown in the
table. Orig. art. has: 1 table. [W.A. 50; CBE No. 10]

SUB CODE: 07/ SUBM DATE: 10May65/ ORIG REF: 004/ OTH REF:00

Card 3/3